

REMARKS

This Amendment is filed in response to the Office Action dated June 23, 2009. For the following reasons this application should be allowed and the case passed to issue. No new matter is introduced by this amendment. The amendment to claim 1 is supported by the specification at paragraphs [0124] and [0130].

Claims 1-35 are pending in this application. Claims 6-35 were withdrawn pursuant to a restriction requirement. Claims 1-5 were rejected. Claim 1 is amended in this response.

Claim Rejections Under 35 U.S.C. §§ 102 and 103

Claims 1 and 2 were rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Nakamura (JP 11018324). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the present invention, as claimed, and the cited prior art.

The Examiner asserted that Nakamura discloses a rotor using an electrical sheet with low iron loss, the rotor (10) comprising a bridge side (20) on an inner circumference of a magnet insertion window (16) of the rotor, in which the bridge side is work hardened by a laser peening of irradiating. The Examiner alleged that process steps are not given patentable weight.

Initially it is noted, despite the Examiner's apparent citation MPEP 2113 as supporting otherwise, that the failure to consider every limitation in a claim is incorrect. Claims are to be considered as a whole. The process steps in the present claims impart distinctive structure to the claimed rotor, and should be given patentable weight. For example, as explained in the present specification, "laser peening the outer bridge side 503 on the inner circumference of the magnet insertion window 501 of the rotor 500 having an outer bridge 505 with a width of approximately

1 mm causes the entire outer bridge 505 a plastic deformation extending in the circumferential direction, resulting in a three dimensional deformation.

Nakamura does not anticipate or render obvious the claimed rotor because Nakamura does not disclose or suggest a rotor using an electrical steel sheet with low iron loss, the rotor comprising a bridge side on an inner circumference of a magnet insertion window of the rotor having a layer which is work hardened due to a compression residual stress having added thereto, the compression residual strength caused by applying a laser peening of irradiating at an angle relative to the inner circumference of the magnet insertion window with a laser through a liquid to transmit a shockwave resulting from a high pressure plasma produced over the bridge side by the laser to the bridge side, as required by claim 1.

The present invention is further distinguishable because contrary to the Examiner's assertion, Nakamura does not disclose an electrical steel with low iron loss. Nakamura discloses an electrical steel sheet with low magnetic permeability, not low iron loss. The Examiner has not shown any correlation between magnetic permeability and iron loss.

Furthermore, Nakamura does not apply a laser peening to a bridge side for work hardening, as required by claim 1. Rather, Nakamura discloses using a laser for heat treating or welding, as explained in paragraph [0020]. Nakamura does not teach or suggest laser peening. In addition, Nakamura discloses reducing magnetic permeability, while not mentioning work hardening. Nakamura teaches that the magnetic permeability of a portion where leakage flux is generated is reduced by hindering the movement of a magnetic wall resulting from refining impurities in an iron core by means of a heat-affecting process, such as laser welding, and dispersing and precipitating them, as explained in paragraph [0016]. Therefore, the allegation that the bridge side 20 is work-hardened by laser radiation in Nakamura is incorrect. In addition,

the area to which the laser radiation is applied in Nakamura is located on a concave wall 42 of a slit 12 positioned in the side of the bridge (see paragraph [0020]). Thus, the bridge side on an inner circumference of the slot 16 is not irradiated with the laser.

Furthermore, because the laser is irradiated on the inner circumference of the magnet insertion window from an oblique direction, it is possible to process a plurality of stacked rotors together, and thus improve productivity and efficiency while reducing the cost of the laser peening process. Thus, the rotors of the present invention can be produced at relatively lower cost. Nakamura does not disclose or suggest the radiating direction of the laser and stacking of a plurality of rotors.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Helifix Ltd. v. Blok-Lok Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 399, 36 USPQ2d 1101 (Fed. Cir. 1995); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). Because Nakamura does not disclose or suggest a rotor using an electrical steel sheet with low iron loss, the rotor comprising a bridge side on an inner circumference of a magnet insertion window of the rotor having a layer which is work hardened due to a compression residual stress having added thereto, the compression residual strength caused by a laser peening of irradiating at an angle relative to the inner circumference of the magnet insertion window with a laser through a liquid to transmit a shockwave resulting from a

high pressure plasma produced over the bridge side by the laser to the bridge side, as required by claim 1, Nakamura does not anticipate claim 1.

Applicants further submit that Nakamura does not suggest the claimed rotor.

Claim Rejection Under 35 U.S.C. § 103

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura in view of Koharagi et al. (US 2003/0057785).

Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura in view of Edwards et al. (US 6,848,495).

These rejections are traversed, and reconsideration and withdrawal thereof respectfully requested.

Dependent claims 3-5 are allowable for at least for the same reasons as independent claim 1, and further distinguish the claimed rotor. Koharagi et al. and Nakamura et al. do not cure the deficiencies of Edwards et al., as Koharagi et al. and Edwards et al. do not suggest a rotor using an electrical steel sheet with low iron loss comprising a bridge side on an inner circumference of a magnet insertion window of the rotor having a layer which is work hardened due to a compression residual stress caused by applying a laser peening, as required by claim 1.

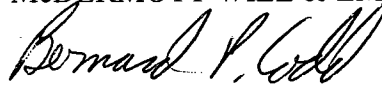
In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

Application No.: 10/572,855

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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